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The Attitude of Manitoba High School Principals Toward Physical Education

Aubrey C. Ferris

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THE ATTITUDE OF MANITOBA HIGH SCHOOL
PRINCIPALS TOWARD PHYSICAL EDUCATION
Aubrey C. Ferris, Master of Science

The thesis here abstracted was written under the direction of Walter C. Koenig and approved by John L. Quaday and Allen W. Sturges as members of the examining committee, of which Mr. Koenig was chairman.

The purpose of this study was to discover the attitude toward physical education of the one-hundred Manitoba principals of high schools with enrollments over one hundred and fifty.

For the basis of evaluation, the Wear Attitude Inventory was incorporated into a questionnaire, to which ninety-one principals responded.

Comparisons between different groups of principals to determine attitude differences were also made. These comparisons were made between: Older and younger principals; principals of schools with small enrollment (less than 300) and principals of schools with larger enrollment; principals with different educational preparation; principals who engaged in personal recreational sports activities and principals who indicated they did not participate in them; supervisors and non-supervisors; and principals of schools which had a longer class time for physical education and principals of schools with a shorter class time.

As an entire group, the principals had a favorable attitude toward physical education, but the attitude was not highly favorable. No statistically significant attitude differences were found between the different comparison groups.

This abstract of a thesis submitted by Aubrey C. Ferris
in partial fulfillment of the requirements for the Degree of
Master of Science in the University of North Dakota is hereby
approved by the committee under whom the work of the thesis
has been done.

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THE ATTITUDE OF MANITOBA HIGH
SCHOOL PRINCIPALS TOWARD
PHYSICAL EDUCATION

by

Aubrey C. Ferris

B.S. in Education

University of North Dakota

1965

A Thesis

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of the

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in partial fulfillment of the requirements

for the Degree of

Master of Science

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This thesis, submitted by Aubrey C. Ferris in partial fulfillment of the requirements for the Degree of Master of Science in the University of North Dakota, is hereby approved by the committee under whom the work has been done.

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Gratitude is also expressed to the principals of Manitoba high schools for their fine cooperation in this study.

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ABSTRACT

The purpose of this study was to discover the attitude toward physical education of the one-hundred Manitoba principals of high schools with enrollments over one hundred and fifty.

For the basis of evaluation, the Wear Attitude Inventory was incorporated into a questionnaire, to which ninety-one principals responded.

Comparisons between different groups of principals to determine attitude differences were also made. These comparisons were made between: Older and younger principals; principals of schools with small enrollment (less than 300) and principals of schools with larger enrollment; principals with different educational preparation; principals who engaged in personal recreational sports activities and principals who indicated they did not participate in them; supervisors and non-supervisors; and principals of schools which had a longer class time for physical education and principals of schools with a shorter class time.

As an entire group, the principals had a favorable attitude toward physical education, but the attitude was not highly favorable. No statistically significant attitude differences were found between the different comparison groups.

CHAPTER I

THE PROBLEM AND ITS SCOPE

The Problem

The purposes of this study were to determine the attitudes of Manitoba high school principals toward physical education, to discover some factors which might influence their attitudes, and to discover some influences their attitudes might have on the physical education activity programs in their schools.

The first specific purpose of this study was concerned with the attitudes of all the principals as a group.

Succeeding parts were concerned with such factors as:

1. Attitude differences between older and younger principals.
2. Attitude differences between principals with different educational preparation.
3. Attitude differences between principals of schools with small enrollments and schools with larger enrollments.
4. Attitude differences between supervising and non-supervising principals.
5. Attitude differences of principals who engaged in some personal recreation in comparison to principals who indicated they did not participate in personal recreation related to physical education sports activities.

6. Attitude differences between principals of schools which had a longer class time for physical education and principals of schools which had a shorter class time for physical education.

Need for the Study

Physical education is in constant communication with some administrative persons in the school. This communication is usually with the principal. The principal is quite possibly the administrator who supervises the physical educator and his programs, draws up the schedule and time allotment for physical education and assigns students to the classes. He also may assign or provide areas, supplies, and equipment to make experience productive and pleasurable, makes, or helps make, physical education administrative rulings, and selection of competent leadership during the process of learning.

Hypotheses

Past experience and a review of the literature on attitude toward physical education has given rise to the following hypotheses:

1. As a group, Manitoba high school principals are believed to have a favorable attitude toward physical education, but the attitude will not be highly favorable.

2. Younger principals are believed to have a more favorable attitude toward physical education.

3. The greater the principals' educational level the more favorable their attitudes will be in comparison with principals with a lower educational level.

4. Principals of larger school enrollments are believed to have

a more favorable attitude.

Principals who are believed to have a more favorable attitude toward non-supervising principals:

Principals who spend some time for personal recreation are believed to have a more favorable attitude than principals who do not engage in personal recreation.

Principals who spend some time for physical education are believed to have a more favorable attitude than principals who assign no time for physical education.

Conclusion

The study was delimited to include only one hundred principals in Manitoba secondary schools with enrollment over one-hundred students. The Directory of Physical Education Teachers in the Manitoba Secondary Schools 1965-66.

Limitation

Usual shortcomings of the questionnaire method of approach, especially the possibility of inaccurate interpretation, will hinder the collection of information.

Despite its shortcomings, the questionnaire method represents a more feasible means for making a study of this nature. Because of the time and money that would have been involved in the interviewing of principals throughout the province, the questionnaire

method was considered the most logical procedure to follow in securing the information desired in this study.

Definitions

"An attitude is a tendency to react favorably or unfavorably toward persons, objects or situations."²

The Wear Attitude Inventory was developed originally, in 1951, and validated with college men; a reliability of .96 was obtained. Wear stated, "The Inventory will place individuals in rank order regarding the intensity of attitude toward Physical Education and will indicate the direction of shifts in intensity of individual and group attitudes."³

The Questionnaire was the form used incorporating the Inventory and other identifying information (See Appendix A).

Review of Related Literature and Research

The literature and research reviewed for this study has been divided into three sections. The first section is concerned with attitude definition; the second, with attitude aspects and effect on behavior; the third section deals with related attitude studies.

Attitude Definition

Schneider's comment that "attitudes, like interests, are

²S.S. Sargent, Social Psychology (New York: The Ronald Press Company, 1950) p. 52.

³Carlos L. Wear, "The Construction and Application of an Instrument for the Evaluation of Attitude Toward Physical Education as an Activity Course" (unpublished Ph.D. dissertation, State University of Iowa, 1950) p. 34.

difficult to define precisely",⁴ did not seem to be accepted at face value by other writers, as practically all offered their own definition of an attitude in one form or another.

G. Allrightly and Byrne define attitude as "a construct which refers to an enduring, learned readiness to behave in a consistent way along an affective dimension toward a given object or class of objects. On the basis of a variety of antecedent experiences, each individual holds a large number of beliefs, opinions, values, and judgments which involve attitudinal components."⁵

L. Gardus defines attitude as "a tendency to act toward or against something in the environment which becomes thereby a positive or negative value."⁶ Sutherland and Woodward add to this definition by stating this tendency to act "exists previous to the act itself."⁷

D. Dabra defines attitude as "...to act for or against a definite object."⁸ Dabra expands upon this "definite object" to include

⁴ Alexander L. Schneiders, The Psychology of Adolescence (Milwaukee: The Bruce Publishing Company, 1951) p. 204.

⁵ G. Allrightly and Donn Byrne, "Attitude Statements as Positive and Negative Reinforcements", Science, Volume 146 (March 1964) p. 798.

⁶ L. L. Bogardus, Fundamentals of Social Psychology (2nd edition; New York: Holt Company, 1926) p. 156.

⁷ R.L. Sutherland and J.L. Woodward, Introductory Sociology (2nd edition, New York: J.B. Lippencott Company, 1940) p. 211.

⁸ D. Dabra, "The Nature of Attitudes", Journal of Social Psychology, Volume 1 (November 1933) p. 451.

"object or issue."⁹

Sargents' definition (which this writer used) encompassed most definitions by stating that "an attitude is considered a tendency to react favorable or unfavorable toward persons, objects, or situations."¹⁰

Attitude Aspects and Affects on Behavior

Various aspects of attitudes have been described by psychologists and others.

Allport divided or classified attitudes by stating that "ordinarily, attitudes are favorable or unfavorable, well-disposed or ill-disposed, they lead one to approach or withdraw, to affirm or negate."¹¹

Schneiders said that attitudes "...are variously related to interests, traits, opinions, beliefs, and prejudices."¹² Murphy followed the same thought even more concretely, "...they remind us directly of values; indeed the more closely they are regarded, the more difficult it is to find any essential differences between

⁹Thomas H. Briggs, Secondary Education (New York: MacMillian Company, 1933) p. 245.

¹⁰Sargent, op. cit.

¹¹Gordon W. Allport, Personality (New York: Henry Holt and Company, 1937) p. 294.

¹²Schneiders, op. cit.

attitude and values."¹³

Mead makes the various aspects of attitude even more encompassing by saying that "one's beliefs, opinions, hates, prejudices, loves, likes, dislikes, preferences, tastes, and dislikes are all attitudes."¹⁴

Havighurst lists the following ways in which attitudes are formed:

1. By imitation of people with prestige in the eyes of the learner.
2. By collection and combinations of unpleasant experiences associated with a given object or situation.¹⁵

Most writers stated that attitudes are acquired by learning and they do not exist due to hereditary factors. Dobra was one who agreed: "There is nothing in attitudes that is not acquired."¹⁶

A good deal of importance was given to attitudes and their affect on behavior.

Briggs said:

They condition the acquiring and retention of knowledge; they influence its interpretation, they stimulate to the seeking of more knowledge of the same kind or

¹³Gardner Murphy, Personality, A Biosocial Approach To Origin and Structure (New York: Harper Brothers, 1947) p. 286.

¹⁴A.R. Mead, "Attitudes and Education: A Limited Statement", Education, Volume 84 (March 1964) p. 428.

¹⁵Robert J. Havighurst, Human Development and Education (New York: Longmans, Green and Company, 1953) p. 40.

¹⁶Dobra, op. cit.

effectually turn from it; they stimulate to action; they largely determine what shall be done with knowledge, organized or in isolated units.¹⁷

...They dominate, mostly unconsciously, the thinking and the action of the individual in all the more fixed or recurring social situations from the early years on. They come into action prior to thought and often act selectively in determining what is admitted to consciousness. They affect the judgements and motivate acceptable and required contacts.¹⁸

According to Allport: "Attitudes determine for each individual what he will see and hear, what he will think, and what he will do."¹⁹

Thurstone stated that "attitudes denote the sum total of man's inclinations, ideas, fears, threats, and convictions about any specific topic."²⁰

Dobra concurred that attitude affects behavior by saying that "there is a fairly general agreement among writers that attitudes are true indicators of behavior. An attitude will, in general, be followed by a type of activity indicated in the attitude."²¹

Related Attitude Studies

There had been numerous studies of attitude in other areas.

¹⁷Briggs, op. cit.

¹⁸Joyce O. Hertzler, Society In Action (New York: The Dryden Press, 1954) p. 323.

¹⁹Gordon W. Allport, Handbook of Social Psychology (Worcester, Massachusetts: Clark University Press, 1935) p. 806.

²⁰L.L. Thurstone, The Measurement of Attitudes (Chicago: The University of Chicago Press, 1937) p. 6.

²¹Dobra, op. cit., p. 459.

In the field of attitude toward physical education some studies had been done dealing with all levels of students. The writer could find no studies, however, which were directly related to the attitude of principals toward physical education, either in the United States or Canada. In a more favorable relation though, was the fact that a great many of the attitude studies in physical education used the Wear Attitude Inventory or adaptations of it. Further explanation of the Inventory is outlined in subsequent chapters of this study.

Demsey²² used the Kneer Inventory to assess the attitude of girls in an Illinois high school, and compared the attitude toward physical education with general intelligence as measured by the Binet test. No significant relationship was found.

In 1953, Bell, Walters and others, at the University of Michigan, used the Wear Inventory to study the attitude of freshmen men and senior college women. Results showed that those who had had physical education in high school had more favorable attitudes toward physical education than those who had had no physical education in high school.

²²Patricia W. Demsey, "The Relationship Between Intelligence and Attitudes Toward Physical Education," (unpublished Master's thesis, Illinois State Normal University, 1957).

²³Margaret Bell, Etta Walters and staff, "Attitudes of Freshmen at the University of Michigan Toward Physical Education," Research Quarterly, Volume 24 (December 1953).

Nelson²⁴ found differences in attitude between high school boys taking ROTC and those taking physical education. Those who took physical education had a more favorable attitude toward competition, games, and athletics.

Allerdice,²⁵ studying eighth and ninth grade girls, found that the twenty girls with the most positive attitude had a higher degree of physical fitness than the twenty girls with the most negative attitude. However, studying the whole group of two-hundred and seven girls, she did not find any substantial relationship between attitude toward physical education and degree of physical fitness.

Broer and Holland,²⁶ in their investigation involving college women, concluded that lack of success, class size, and individual attention to students in class were all important factors influencing attitudes toward physical education.

Casady,²⁷ in his study of the affects of lecture presented

²⁴G.A. Nelson, "Personality and Attitude Differences Associated With the Elective Substitution of ROTC for the Physical Education Requirement in High School, Research Quarterly, Volume 19 (March 1948).

²⁵Mary Ellen Allerdice, "The Relationship Between Attitude Toward Physical Education and Physical Fitness Scores and Sociometric Status. (unpublished Master's thesis, State University of Iowa, 1963).

²⁶Marion R. Broer and Dolly Holland, "Physical Education Interests and Needs of University of Washington Women In Service Classes," Research Quarterly, Volume 25 (December 1954) p. 387.

²⁷Donald R. Casady, "The Effect of Lectures Presented in a Required Physical Education Program" (unpublished Ph.D. dissertation, State University of Iowa, 1959) p. 183.

to students in physical education in the required program, brought forth the point that students with a background in physical education and sports have a more positive attitude than those with no background in it.

The Cross²⁸ study, of nine-hundred and thirty eight freshmen students at the University of Oregon, showed results similiar to those of Squires²⁹: Athletes and students from schools with enrollments less than three hundred tended to reflect a more favorable attitude toward physical education than those students from schools with higher enrollments.

Moore³⁰ investigated attitudes of college women toward physical activity as a means of recreation. She reported a highly favorable attitude toward activity but that the three prominent reasons for not spending more time in physical recreation were lack of time, lack of play companions, and outside work.

Kleyensteuber,³¹ in a study of school administrators, found

²⁸ John A. Cross, "Attitudes Toward Physical Education of Male Students Entering the University of Oregon" (unpublished Master's thesis, University of Oregon, 1964) p. 32.

²⁹ John Y. Squires, "Factors Influencing Attitudes of High School Boys Toward Physical Education" (unpublished Ph.D. dissertation, Springfield College, 1956) p. 72.

³⁰ Beverly Young Moore, "The Attitude of College Women Toward Physical Activity as a Means of Recreation," Research Quarterly, Volume 12 (December 1941) pp. 720-25.

³¹ Carl J. Kleyensteuber, "Attitudes and Behaviors of Group of School Administrators," (unpublished Ph.D. dissertation, University of Wisconsin, 1956) pp. 385-386.

that people differed significantly in attitudes and behaviors with respect to a number of variables. Some of these were:

1. The number of years of experience in administration.
2. The pattern of educational preparation.
3. The age level.
4. The size of school in which experience was achieved.

On the basis of his investigation Kleyensteuber identified, in addition to his conclusion, the following implication of his research:

1. Educators as individuals are subject to many influences.
2. The objectives of education are interpreted differently by different educators.
3. Correlation of attitudes of the educators with their behaviors is consistently positive.
4. Variation in attitude and behaviors between groups of administrators is consistently greater than for groups of teachers.

CHAPTER III

PROCEDURE

The Sample

Out of 100 Manitoba high school principals eligible to respond (according to the definition) a total of ninety-six responded to the questionnaire. Examination of the responses indicated that four principals did not wish to participate in the study and one response contained irregularities so that ninety one subjects were used in this study.

Attitude Measurement

For the purpose of measuring the intensity of the attitude of Manitoba high school principals, the Wear Attitude Inventory was selected. The selection was based on the following facts described by Wear:

The validity of this instrument rests largely on logical foundations. However, some statistical evidence is given in support of the validity. Efforts were made to secure a valid instrument by the following means: (a) the attitude object was defined and an attempt was made to give the key concept (physical education) approximately the same meaning for all subjects. (b) The customary method used in validating educational achievement, a wide sampling of accepted objectives, was employed. Statements were prepared which were intended to tap attitudes toward the commonly accepted objectives of physical education and toward the extent to which they are usually achieved. (c) A subject which has been rather widely accepted

and used by psychologists and sociologists was employed. (d) An attempt was made to construct the statements in such a manner that they would be clear and unambiguous. (e) Statements which ranked highest in power to differentiate between extreme groups, as determined by total scores on the instrument were retained in a short form of the instrument. (f) Scores were compared with results obtained from the use of a graphic self-rating scale. (g) Personal data were secured from each individual regarding some of his past experiences with physical education and athletics which might presumably affect or reflect attitude toward physical education.

Relationships existing between scores made on the evaluative instrument and scores made on these personal questions were studied. The power of the instrument to differentiate between opposing groups as determined by answers to these questions were also investigated.¹

Statistical Treatment

The Inventory contained forty statements to which the subject was asked to respond by placing an "X" under the word, or words, which best corresponded to his feelings about the numbered statements. Five possibilities were offered: strongly agree, agree, undecided, disagree, strongly disagree.

Scoring was carried out as described by Likert.² The procedure is as follows:

1. In favorable statements: "strongly agree" scored five

¹ Carlos L. Wear, "The Evaluation of Attitude Toward Physical Education as an Activity Program," Research Quarterly, Volume 22 (March 1951) pp. 114-115.

² R. Likert, "A Technique for the Measurement of Attitudes," Archives of Psychology, Volume 22 (1932) pp. 5-33.

points, "agree"--four points, "undecided"--three points, "disagree"--two points, "strongly disagree"--one point.

2. In unfavorable statements the scoring was reversed so that a "strongly disagree" response earned five points, "disagree"--four points, "undecided"--three points, "agree"--two points, and "strongly agree"--one point.

This scoring scale allowed for a maximum of two hundred to reflect a highly favorable attitude toward physical education, while a principal with a highly unfavorable attitude could score as few as forty points. If a principal adopted a neutral position in response to the Inventory, and answered all statements by marking in the "undecided" column, he would score one hundred and twenty points.

A scoring key was prepared and all response sheets marked in accordance with this key. Scored sheets were then grouped in criteria-groupings as outlined in Chapter I. Group means were computed and comparisons between criteria-groups made.

The differences between group means were tested for significance by using the critical (t) ratio test.³ The .01 level of confidence was accepted by the investigator in all statistical comparisons.

³Henry E. Garrett, Statistics in Psychology and Education, 5th ed. (New York: Longmans, Green and Company, 1958) pp. 188-194.

CHAPTER III

Analysis of Data

The purposes of the testing in this study were to:

1. Discover the attitudes of Manitoba high school principals toward physical education.
2. Discover attitude differences between older and younger principals.
3. Discover attitude differences between principals with different educational preparation.
4. Discover attitude differences between principals of schools with small enrollment and principals of schools with larger enrollment.
5. Discover attitude differences between supervising principals and non-supervising principals.
6. Discover attitude differences between principals who spend some time participating in recreational sports and principals who spend no time at all in this activity.
7. Discover attitude differences between principals whose schools have a shorter class period of physical education.

Each questionnaire was assigned a score using the Likert method

of evaluation.¹ The individual scores for each group were then punched onto computer cards. Using a 1620 I.B.M. computer, means and standard deviations for each group were calculated. Further statistical calculations were made, using these data, to determine a critical (t) ratio. It had been decided to use the critical (t) ratio of the actual difference between means and the standard error of the difference between means. When these "t" values were determined, this writer checked them with a table of "t" from Garrett,² to ascertain whether the results were statistically significant.

Over-all Attitude of Principals

As an entire group, Manitoba high school principals had a mean attitude score of 160.582 with a standard deviation of 12.814. Five principals (5.47 per cent) scored in the highly favorable rating (raw scores from 180 to 200). Forty-five principals (49.12 per cent) scored in the favorable rating (raw scores from 160 to 179). Thirty-six principals (39.55 per cent) scored in the slightly favorable rating (raw scores from 140 to 159). Four principals (4.44 per cent) scored in the slightly unfavorable rating (raw scores from 120 to 139). One principal (1.09 per cent) scored in the unfavorable rating (raw scores from 60 to 119). No

¹R. Likert, "A Technique for the Measurement of Attitudes," Archives of Psychology, Volume 22, 1932, pp. 5-33.

²Henry E. Garrett, Statistics in Psychology and Education, 5th ed. (New York: Longmans, Green and Company, 1958) p. 449.

principal scored in the highly unfavorable rating (raw scores from 40 to 59).

TABLE I

OVER-ALL ATTITUDE OF PRINCIPALS

Overall Attitude Rating	Raw Score Equivalents	No. of Principals	Percentage
Highly Favorable	180-200	5	5.47
Favorable	160-179	45	49.12
Slightly Favorable	140-159	36	39.55
Slightly Unfavorable	120-139	4	4.41
Unfavorable	60-119	1	1.09
Highly Unfavorable	40-59	0	0.0
Total		91	99.67

RESULTS OF ATTITUDE COMPARISONS

Comparison of Older and Younger Principals

The group (N=22) of principals who graduated from high school before 1935 had a mean score of 159.136 with a standard deviation of 13.966. The group (N=69) of principals who graduated from high school after 1935 had a mean score of 161.465 with a standard deviation of 12.745. The actual difference between means of the two groups was 2.329. The standard error of the difference between means of the two groups was 3.416. The "t" value resulting from

the relationship of the actual difference between the means of the two groups and the standard error of the difference between the means was .416. With 90 degrees of freedom, this "t" value indicated no significant difference between the two groups.

TABLE 2.

COMPARISON OF ATTITUDE BETWEEN PRINCIPALS
WHO GRADUATED FROM HIGH SCHOOL BEFORE
1935 WITH PRINCIPALS WHO GRADUATED IN
OR AFTER 1935

GROUP	M	STD	SE	Diff.	SE diff.
Before 1935	159.136	13.966	2.978		
				2.329	3.416
In or after 1935	161.465	12.745	1.673		
t = .416--not significant at .01 level of confidence					

Comparison with Respect to Educational Preparation

The group (N=21) which had a maximum educational degree of Bachelor of Arts had a mean score of 161.6 with a standard deviation of 8.952. The group (N=70) which had a minimum educational degree of Bachelor of Education had a mean score of 160.411 with a standard deviation of 13.870. The actual difference between the means of the two groups was 1.286. The standard error of the difference between means of the two groups

was 2.599. The "t" value resulting from the relationship of the actual difference between the means of the two groups and the standard error of the difference between the means was .495. With 90 degrees of freedom, this "t" value indicated no significant differences between the two groups.

TABLE 3

COMPARISON OF ATTITUDE BETWEEN PRINCIPALS
WITH A MAXIMUM EDUCATIONAL DEGREE OF
BACHELOR OF ARTS AND PRINCIPALS WITH A
MINIMUM EDUCATIONAL DEGREE OF BACHELOR
OF EDUCATION

GROUP	M	STD	SE _M	Diff.	St diff.
BEd or less	161.6	8.952	2.002		
				1.286	2.599
BEd or more	160.414	13.870	1.658		
t = .495--not significant at .01 level of confidence					

Comparison of Principals Attitudes

With Different School Enrollments

Principals of schools with enrollment less than three hundred (N=49) had a mean score of 159.833 with a standard deviation of 11.971. Principals of schools with enrollments over three hundred (N=49) had a mean score of 162.294 with a standard deviation of 10.644. The actual difference between the means of the two groups

was 1.286. The standard error of the difference between the means of the two groups was 2.599. The "t" value resulting from the relationship of the actual difference between the means of the two groups and the standard error of the difference between the means of the two groups was .504. With 90 degrees of freedom, this "t" value indicated no significant difference between the two groups.

TABLE 4

COMPARISON OF ATTITUDE OF PRINCIPALS OF SCHOOLS
WITH ENROLLMENT UNDER THREE HUNDRED WITH PRINCIPALS
OF SCHOOLS WITH ENROLLMENT OVER THREE HUNDRED

GROUP	M	STD	SE _M	Diff.	SE diff.
Under 300	159.833	14.913	2.301		
				1.391	2.758
Over 300	161.224	10.648	1.521		
t = .504--not significant at .01 level of confidence					

Comparison of Attitude of Supervising Principals

With Non-Supervising Principals

Supervising principals (N=55) had a mean score of 162.309 with a standard deviation of 13.391. Non-supervising principals (N=33) had a mean score of 157.575 with a standard deviation of 11.654. The actual difference between the means of the two groups was 4.734. The standard error of the difference between the means

of the two groups was 2.715. The "t" value resulting from the relationship of the actual difference between the means of the two groups and the standard error of the difference between the means of the two groups was 1.714. With 87 degrees of freedom, this "t" value indicated no significant difference between the two groups.

TABLE 5

COMPARISON OF ATTITUDE OF SUPERVISING PRINCIPALS
WITH NON-SUPERVISING PRINCIPALS

GROUP	M	SD	SE _M	Diff.	Se diff.
Supervisors	162.309	13.391	1.806		
Non-supervisors	157.575	11.651	2.027	4.734	2.715
t=1.714 -- not significant at .05 level of confidence					

Comparison of Attitude of Principals of Schools

With a Maximum of Seventy-Nine Minutes Per

Week for Physical Education with Principals of

Schools with a Minimum of Eighty Minutes

Per Week

Principals of schools which offered up to a maximum of seventy-nine minutes per week for physical education (N=37) had a mean score of 160.222 with a standard deviation of 12.213. Principals of schools which offered at least eighty minutes per week for

physical education ($N=54$) had a mean score of 160.981 with a standard deviation of 13.353. The actual difference between the means of the two groups was .759. The standard error of the difference between means of the two groups was 2.721. The "t" value resulting from the relationship of the actual difference between the means of the two groups and the standard error of the difference between means of the two groups was .279. With 93 degrees of freedom, this "t" value indicated no significant differences between the two groups.

TABLE 6

COMPARISON OF ATTITUDE OF PRINCIPALS OF SCHOOLS
WITH A MAXIMUM OF SEVENTY-NINE MINUTES PER
WEEK FOR PHYSICAL EDUCATION WITH PRINCIPALS OF
SCHOOLS WITH A MINIMUM OF EIGHTY MINUTES
PER WEEK

GROUP	M	STD	SE _M	Diff.	SE diff.
Maximum of 79 minutes	160.222	12.213	2.036		
Minimum of 80 minutes	160.981	13.353	1.817	.759	2.715
t = .279--not significant at .01 level of confidence					

Comparison of Attitudes of Principals

Who Spend No Time Participating in Recreational Sports

With Principals Who Spend Some Time in Such Activity

Principals who spent no time for personal recreation (N=37) had a mean score of 159.81 with a standard deviation of 15.181. Principals who spent some time for personal recreation (N=41) had a mean score of 162.609 with a standard deviation of 10.858. The actual difference between the means of the two groups was 2.799. The standard error of the difference between means of the two groups was 3.018. The "t" value resulting from the relationship of the actual difference between the means of the two groups and the standard error of the difference between the means of the two groups was .927. With 77 degrees of freedom, this "t" value indicated no significant difference between the two groups.

TABLE 7

COMPARISON OF ATTITUDES OF PRINCIPALS

WHO SPEND NO TIME PARTICIPATING IN RECREATIONAL SPORTS

WITH PRINCIPALS WHO SPEND SOME TIME IN SUCH ACTIVITY

GROUP	M	STD	SE _M	Diff.	Se diff.
No Time for Personal Recreation	159.810	15.181	2.496		
				2.799	3.018
Some Time for Personal Recreation	162.608	10.858	1.696		

t = .927--not significant at .01 level of confidence					

Comparison of Attitude of Principals Who
Had Participated in Varsity Sports With
Principals Who Had Not Participated
In Varsity Sports

Principals who had participated in varsity sports (N=49) had a mean score of 160.51 with a standard deviation of 14.88. Principals who had not participated in varsity sports (N=35) had a mean score of 160.285 with a standard deviation of 10.484. The actual difference between the means of the two groups was .225. The standard error of the difference between the means of the two groups was 2.768. The "t" value resulting from the relationship of the actual difference between the means of the two groups and the standard error of the difference between the means was .081. With 81 degrees of freedom, this "t" value indicated no significant differences between the two groups.

TABLE 8

COMPARISON OF ATTITUDE OF PRINCIPALS WHO
 HAD PARTICIPATED IN VARSITY SPORTS WITH
 PRINCIPALS WHO HAD NOT PARTICIPATED
 IN VARSITY SPORTS

GROUP	M	STD	SE _M	Diff.	SE diff.
Participated	160.51	14.88	2.126	.225	2.768
Not Participated	160.285	10.484	1.772		
t = .081 -- not significant at .01 level of confidence					

The statistical procedure used in obtaining the "t" values along with the actual statistical work is presented in Appendix B.

CHAPTER IV

DISCUSSION

This writer had been greatly disturbed with the many problems which existed in the physical education programs of Manitoba high schools. The task of alleviating the problems which exist could be greatly eased, or possibly eliminated, if the principals of the high schools had a favorable attitude toward physical education. With at least forty-five per cent of the principals having attitude ratings toward physical education of slightly favorable, slightly unfavorable, or unfavorable (see Table 1), this problem solving task will not be an easy one. On the other hand, with almost fifty-five per cent of the principals having a more favorable attitude the problem solving attempts should not be discouraged or dropped.

Although no statistical significance was found in the various attitude comparisons made, this writer believes several points brought to light are worthy of mention.

Twenty per cent of the principals had not been enrolled in any college of education. The main possible reason for such a situation may be the large number of rural or small community high schools which probably found it difficult to obtain the more highly qualified educators.

Fourteen per cent of the principals had attended a university other than the University of Manitoba but only four had not attended the University of Manitoba at one time or another. Even though the University of Manitoba may be an exceptionally good institution, this writer believes that such a situation will have a negative effect on educational progress. Universities are a great force in the development and passing down of educational ideas and changes, and therefore are initiators of progress. With more distributors of educational thought there would probably also be more variety available to the consumer. With more variety available, the consumer will be more likely to choose the one best for his situation. Quite possibly the reason why there are not more principals who attended other universities is the lack of reciprocal benefits, such as experience pay and pensions, among the provinces.

Although no statistical significance was found between the selected time allotment groups, an important problem did come to light. The average time allotment for physical education in the ninety-one high schools was only seventy-five minutes, divided over two periods per week. Jacobson, Reavis and Logsdon stated:

"Despite the fact that there is little objective evidence of the optimum time allotment for physical education, principals and leaders generally favor a daily period of approximately one hour."¹

Quite apparently the principals surveyed in this study would

¹Paul B. Jacobson, William C. Reavis, and James D. Logsdon, The Effective School Principal (2d. ed. rev.; Englewood Cliffs: Prentice-Hall Inc., 1963) p. 203.

disagree with this preceding quotation, as almost fifty per cent of the respondents agreed with the following statement from the Inventory--"There should not be over two one-hour periods per week devoted to physical education in schools." (question 24, Appendix A). Most physical educators will realize that any attempt to reach their program objectives will be seriously retarded if they are forced to work under such conditions as two, thirty-seven and one-half minute periods per week.

This writer does believe, however, that many of the weak points and problems of Manitoba high school physical education programs will be solved, or eased, and the principals attitudes will grow more favorable, as more and more professional physical educators enter the Manitoba high schools.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The one-hundred principals of Manitoba high schools, with enrollments of over one-hundred and fifty, were surveyed and tested to determine their attitudes toward physical education. The measuring device was the Wear Attitude Inventory. The survey responses were analyzed for the following purposes.

1. To determine the principals' group attitude toward physical education.
2. To determine attitude differences between older and younger principals.
3. To determine attitude differences between principals with different educational preparation.
4. To determine attitude differences between principals of schools with small enrollments and principals of schools with larger enrollments.
5. To determine attitude differences between supervising and non-supervising principals.
6. To determine attitude differences between principals who engaged in some recreational sports and principals who indicated they did not participate in recreational sports activities.

7. To determine attitude differences between principals of schools which had longer class time for physical education and principals of schools which had a shorter class time for physical education.

The critical (t) ratio test was used to determine the significance of the comparisons. The 0.01 level of confidence was established as the acceptable point of significance on the Table of t.

Conclusions

The results of this study indicated that:

1. As a group, Manitoba high school principals had a favorable attitude toward physical education, but the attitude was not highly favorable.

2. No Manitoba high school principal had a highly unfavorable attitude toward physical education while five did have a highly favorable attitude.

3. No significant attitude difference was found between older and younger principals.

4. No significant attitude difference was found between principals with different educational preparation.

5. No significant attitude difference was found between principals of schools with small enrollment and principals of schools with larger enrollments.

6. No significant attitude difference was found between supervising and non-supervising principals.

7. No significant attitude difference was found between principals who engaged in some recreational sports activities and principals who indicated they did not participate.

8. No significant attitude difference was found between principals of schools which had a longer class time for physical education and principals of schools which had a shorter class time for physical education.

Recommendations

1. A similar study should be made in a few years to discover if the attitudes toward physical education have changed.

2. A comparison study of the physical education programs of schools with principals highly favorable toward physical education and programs of schools which have principals with the least favorable attitudes should be made.

3. A study should be made to discover why Manitoba high schools have such short physical education class time and what possible corrective measures could be taken.

4. The Manitoba Department of Education should re-evaluate its present teacher classification of physical education majors who graduate from United States of America colleges and universities.

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School _____ Enrollment _____

Year graduated from high school _____

Degrees _____ From _____

1. What classroom subjects do you teach (if any)? (List) _____
2. What percentage of your time do you spend (approx.) in
 - a. administrative duties _____%
 - b. teaching classes _____%
3. Are you responsible for the supervision of physical education?

yes _____

no _____
4. Physical education is offered to students how many periods per week? (circle no.) 0 1 2 3 4 5
5. The length of the physical education period is (circle) 30 min., 45 min., 1 hour, other _____
6. _____ facilities for physical education. yes _____ no _____
7. We have outdoor facilities for physical education. yes _____ no _____
8. What percentage of your time do you devote to swimming, playing tennis, golf, or similiar sports activities? _____%
9. Did you ever compete in varsity sports? yes _____ no _____
10. Circle grades in your school. 7 8 9 10 11 12

DIRECTIONS

Please read carefully, Below you find forty statements about physical education as a high school subject. We would like to know how you feel about these statements. No reference is intended in

any of the statements to interscholastic or intramural athletics. You are asked to consider physical education only from the standpoint of its place as an activity course or activity subject taught as part of the regular school program. People differ widely in the way that they feel about each statement. There are no right or wrong answers. You have been provided with a separate answer sheet for recording your answers to each statement.

- (1) Read each statement carefully,
- (2) go to the answer sheet, and
- (3) to the right of each number which corresponds to the number of the statement place an "X" in the square which is under the word (or words) which best expresses your feeling about the statement.

After you read each statement you will know at once, in most cases, whether you agree or disagree with each statement. Take statement No. 1, for example. If you agree, then decide whether to place an "X" under "strongly agree" or under "agree" opposite No. 1. If you disagree, decide whether to place an "X" under "disagree" or under "strongly disagree". In case you are undecided (or neutral) concerning your feeling about the statement, then place an "X" under "undecided".

We are not interested in connecting any person with any paper, and will not do so without first obtaining written permission. Be sure to answer every statement. ANSWER SHEET IS ON BACK.

STATEMENTS

1. If for any reason a few subjects have to be dropped from your school program, physical education should be one of the subjects dropped.
2. Associations in physical education give people a better understanding of each other.
3. Physical education activities provide no opportunities for learning to control the emotions.
4. Engaging in vigorous physical activity gets one interested in practicing good health habits.
5. Physical education is one of the more important subjects in helping to establish and maintain desirable social standards.
6. A person's body usually has all the strength it needs without participation in physical education activities.
7. Vigorous physical activity works off harmful emotional tensions.
8. The time spent in getting ready for and engaging in physical education class could be more profitable spent in other ways.
9. If I were a student I would only take physical education if it were required.
10. Participation in physical education activities tends to make one a more socially desirable person.
11. Participation in physical education makes no contribution to the development of poise.
12. Physical education in my school may not be receiving all the attention it deserves.
13. Because physical skills seem large in importance in your school, it

is essential that a person be helped to acquire and improve such skills:

14. Physical education classes are poor in opportunities for worthwhile social experiences.
15. Calisthenics taken regularly are good for ones general health.
16. A student would be better off emotionally if he did not participate in physical education.
17. Skill in active games or sports is not necessary for leading the fullest kind of life.
18. It is possible to make physical education a valuable subject by proper selection of activities.
19. Physical education does more harm physically then good.
20. Developing a physical skill brings mental relaxation and relief.
21. Associating with others in some physical education activity is fun.
22. Physical education classes provide nothing of value outside of class.
23. Physical education classes provide situations for the formation of attitudes which will make one a better citizen.
24. There should not be over two one-hour periods per week devoted to physical education in schools.
25. Physical education situations are among the poorest for making friends.
26. Belonging to a group, such as provided in team activities, is a desirable experience for a person.
27. There is not enough value coming from physical education to

- justify the time consumed.
28. Physical education is an important subject in helping a person gain and maintain all-round good health.
 29. Physical education still makes worthwhile contributions to the enrichment of living.
 30. No definite beneficial results come from participation in physical education activities.
 31. Students get all the physical exercise they need in just taking care of their daily work.
 32. Engaging in group physical education activities is desirable for proper personality development.
 33. All who are physically able will profit from an hour of physical education each day.
 34. Physical education activities tend to upset a person emotionally.
 35. Physical education makes a valuable contribution toward building up an adequate reserve of strength and endurance for everyday living.
 36. For its contribution to mental and emotional well-being, physical education should be included in the program of every school.
 37. Physical education tears down sociability by encouraging people to attempt to surpass each other in many of the activities.
 38. I would advise anyone who is physically able to take physical education.
 39. Participation in physical education activities makes for a more wholesome outlook on life.

40. As far as improving physical health is concerned, a physical education class is a waste of time.
-

Would you like an abstract of this study? yes _____ no _____

COMMENTS APPRECIATED:

ANSWER SHEETStrongly
Disagree

Disagree

Undecided

Agree

Strongly
AgreeStrongly
Disagree

Disagree

Undecided

Agree

Strongly
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APPENDIX B

THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEANS
DERIVED FROM UNGROUPED SCORES FROM LARGE SAMPLES

BETWEEN Principals Who Graduated From High School Before
1935 and Principals Who Graduated In or After 1935.

$$N = 81$$

$$M_1 = 159.136$$

$$M_2 = 161.465$$

$$SE_{M_1} = \frac{STD}{\sqrt{N}} = \frac{13.966}{4.69} = 2.978$$

$$\sqrt{N}$$

$$SE_{M_2} = \frac{STD}{\sqrt{N}} = \frac{12.745}{\sqrt{81}} = 1.673$$

$$\sqrt{N}$$

$$\text{Difference Between Means} = M_1 - M_2 = 159.136 - 161.465 = 2.329$$

$$\begin{aligned} SE_{diff} &= \sqrt{SE^2_{M_1} + SE^2_{M_2}} \\ &= \sqrt{2.978^2 + 1.673^2} \\ &= \sqrt{8.868 + 2.799} \\ &= \sqrt{11.667} = 3.416 \end{aligned}$$

$$"t" = \frac{\text{Diff}}{SE_{diff}} = \frac{2.329}{3.416} = .416$$

$$df = N - 1 = 80$$

"t" at the .01 level = 2.64

Not significant at .01 level

THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEANS
DERIVED FROM UNGROUPED SCORES FROM LARGE SAMPLES

BETWEEN Principals With a Maximum of Bachelor of Arts Degree
and Principals With a Minimum of Bachelor of Education

$$N = 81$$

$$M_1 = 161.6$$

$$M_2 = 160.414$$

$$SE_{M_1} = \frac{STD}{\sqrt{N}} = \frac{8.952}{4.472} = 2.002$$

$$SE_{M_2} = \frac{STD}{\sqrt{N}} = \frac{13.870}{8.367} = 1.658$$

$$\text{Difference Between Means} = M_1 - M_2 = 161.6 - 160.414 = 1.286$$

$$\begin{aligned} SE_{diff} &= \sqrt{SE^2 M_1 + SE^2 M_2} \\ &= \sqrt{2.002^2 + 1.658^2} \\ &= \sqrt{4.008 + 2.749} \\ &= \sqrt{6.757} = 2.599 \end{aligned}$$

$$"t" = \frac{\text{Diff}}{SE_{diff}} = \frac{1.286}{2.599} = .495$$

$$df = N - 1 = 80$$

$$"t" \text{ at the } .01 \text{ level} = 2.64$$

Not significant at .01 level

THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEANS
 DERIVED FROM UNGROUPED SCORES FROM LARGE SAMPLES
 BETWEEN Principals of Schools With Enrollment Less Than 300
 and Principals of Schools With Enrollment 300 or Over

$$N = \underline{91}$$

$$M_1 = \underline{159.833}$$

$$M_2 = \underline{162.224}$$

$$SE_{M_1} = \frac{STD}{\sqrt{N}} = \frac{14.913}{6.481} = \underline{2.301}$$

$$SE_{M_2} = \frac{STD}{\sqrt{N}} = \frac{10.648}{7.000} = \underline{1.521}$$

$$\text{Difference Between Means} = M_1 - M_2 = 159.833 - 162.224 = \underline{1.391}$$

$$\begin{aligned} SE_{\text{diff}} &= \sqrt{SE^2_{M_1} + SE^2_{M_2}} \\ &= \sqrt{2.301^2 + 1.521^2} \\ &= \sqrt{5.295 + 2.313} \\ &= \sqrt{7.608} = \underline{2.758} \end{aligned}$$

$$"t" = \frac{\text{Diff}}{SE_{\text{diff}}} = \frac{1.391}{2.758} = \underline{.504}$$

$$df = N - 1 = 90$$

$$"t" \text{ at } .01 \text{ level} = 2.63$$

Not significant at .01 level.

THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEANS
DERIVED FROM UNGROUPED SCORES FROM LARGE SAMPLES

BETWEEN Supervising Principals and Non-supervising Principals

$$N = \underline{88}$$

$$M_1 = \underline{162.309}$$

$$M_2 = \underline{157.575}$$

$$SE_{M_1} = \frac{STD}{\sqrt{N}} = \frac{13.391}{7.416} = \underline{1.806}$$

$$SE_{M_2} = \frac{STD}{\sqrt{N}} = \frac{11.654}{5.745} = \underline{2.027}$$

$$\text{Difference Between Means} = M_1 - M_2 = 162.309 - 157.575 = \underline{4.734}$$

$$\begin{aligned} SE_{\text{diff}} &= \sqrt{SE^2_{M_1} + SE^2_{M_2}} \\ &= \sqrt{1.806^2 + 2.027^2} \\ &= \sqrt{3.262 + 4.109} \\ &= \sqrt{7.371} = \underline{2.715} \end{aligned}$$

$$"t" = \frac{\text{Diff}}{SE_{\text{diff}}} = \frac{4.734}{2.715} = \underline{1.744}$$

$$df = N - 1 = 87$$

"t" at the .01 level = 2.63

Not significant at .01 level

THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEANS
 DERIVED FROM UNGROUPED SCORES FROM LARGE SAMPLES
 BETWEEN Principals of Schools Which Have Physical Education
Up to a Maximum of Seventy-Nine Minutes and Principals of
Schools With a Minimum of Eighty Minutes and Up

$$N = \underline{91}$$

$$M_1 = \underline{160.222}$$

$$M_2 = \underline{160.981}$$

$$SE_{M_1} = \frac{STD}{\sqrt{N}} = \underline{2.036}$$

$$SE_{M_2} = \frac{STD}{\sqrt{N}} = \underline{1.817}$$

$$\text{Difference Between Means} = M_1 - M_2 = 160.222 - 160.981 = \underline{.759}$$

$$SE_{\text{diff}} = \sqrt{SE^2_{M_1} + SE^2_{M_2}}$$

$$= \sqrt{4.145^2 + 3.301^2}$$

$$= \sqrt{7.406}$$

$$= \sqrt{2.721}$$

$$"t" = \frac{SE_{\text{diff}}}{\text{Diff}} = \frac{.759}{2.721} = \underline{.279}$$

$$df = N - 1 = 90$$

$$"t" \text{ at } .01 \text{ level} = 2.63$$

Not significant at .01 level

THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEANS
 DERIVED FROM UNGROUPED SCORES FROM LARGE SAMPLES
 BETWEEN Principals Who Spend No Time For Personal Recreation
Sports Activities and Principals Who Do Spend Some Time For
Personal Recreation Sports Activities

$$N = 78$$

$$M_1 = 159.810$$

$$M_2 = 162.609$$

$$SE_{M_1} = \frac{STD}{\sqrt{N}} = \frac{15.181}{6.083} = 2.496$$

$$SE_{M_2} = \frac{STD}{\sqrt{N}} = \frac{10.858}{6.403} = 1.696$$

$$\text{Difference Between Means} = M_1 - M_2 = 159.810 - 162.609 = 2.799$$

$$\begin{aligned} SE_{diff} &= \sqrt{SE^2 M_1 + SE^2 M_2} \\ &= \sqrt{2.496^2 + 1.696^2} \\ &= \sqrt{6.230 + 2.876} \\ &= \sqrt{9.106} = 3.018 \end{aligned}$$

$$"t" = \frac{\text{Diff}}{SE_{diff}} = \frac{2.799}{3.018} = .927$$

$$df = N - 1 = 77$$

$$"t" \text{ at the } .01 \text{ level} = 2.64$$

Not significant at the .01 level

THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEANS
DERIVED FROM UNGROUPED SCORES FROM LARGE SAMPLES

BETWEEN Principals Who Had Participated in Varsity Sports
And Principals Who Had Not Participated in Varsity Sports.

$$N = 84$$

$$M_1 = 160.510$$

$$M_2 = 160.285$$

$$SE_{M_1} = \frac{STD}{\sqrt{N}} = \frac{14.880}{7.000} = 2.126$$

$$SE_{M_2} = \frac{STD}{\sqrt{N}} = \frac{10.484}{5.916} = 1.772$$

$$\text{Difference Between Means} = M_1 - M_2 = 160.510 - 160.285 = .225$$

$$\begin{aligned} SE_{diff} &= \sqrt{SE^2 M_1 + SE^2 M_2} \\ &= \sqrt{2.126^2 + 1.772^2} \\ &= \sqrt{4.520 + 3.140} \\ &= \sqrt{7.660} = 2.768 \end{aligned}$$

$$t = \frac{\text{Diff}}{SE_{diff}} = \frac{.225}{2.768} = .081$$

$$df = N - 1 = 83$$

$$t_{.01} \text{ at the } .01 \text{ level} = 2.64$$

Not significant at the .01 level.